

What is Claimed is:

SUB
A1
1. A nitride based semiconductor laser device comprising:

5 a transparent substrate having conductive properties;

a nitride based semiconductor layer formed on one surface of said transparent substrate and constituting a cavity;

0988419-062604
10 a first ohmic electrode of a first conduction type formed on the other surface of said transparent substrate; and

a second ohmic electrode of a second conduction type formed on said nitride based semiconductor layer,

15 at least one of said first and second ohmic electrodes being formed in such a shape or arrangement that the forward and backward directions along the cavity length of said nitride based semiconductor layer can be distinguished.

2. The nitride based semiconductor laser device
20 according to claim 1, wherein

said first ohmic electrode and said second ohmic electrode have different shapes.

3. The nitride based semiconductor laser device
25 according to claim 1, wherein

Al
Cont
said first ohmic electrode and said second ohmic electrode have the same shape.

4. The nitride based semiconductor laser device
5 according to claim 1, wherein

703230" 5-488888
said second ohmic electrode is arranged on a region different from a region above a region where said first ohmic electrode is formed in said nitride based semiconductor layer.

10

5. The nitride based semiconductor laser device according to claim 1, wherein

703230" 5-488888
said transparent substrate is composed of gallium nitride or silicon carbide.

15

6. The nitride based semiconductor laser device according to claim 1, wherein

703230" 5-488888
said nitride based semiconductor layer contains at least one of gallium, aluminum, indium, boron, and thallium.

20

7. The nitride based semiconductor laser device according to claim 1, wherein

703230" 5-488888
at least one of said first and second ohmic electrodes is asymmetric with respect to a line passing through a center point of said cavity length and vertical to the cavity length

25

Al
Cont

0969947-06764

10

15

20

25

Al
Cont

0.9988419, 0.999604

附录

respectively forming dielectric films at said front facet and said rear facet.

AI
Cont

14. The method according to claim 12, wherein the step of forming said first and second ohmic electrodes comprises the step of forming the first ohmic electrode and the second ohmic electrode in different shapes.

5

15. The method according to claim 12, wherein the step of forming said first and second ohmic electrodes comprises the step of forming the first ohmic electrode and the second ohmic electrode in the same shape.

10

16. The method according to claim 12, wherein the step of forming said first and second ohmic electrodes comprises the step of arranging said second ohmic electrode on a region different from a region above a region where said first ohmic electrode is formed in said nitride based semiconductor layer.

15

17. The method according to claim 12, wherein said transparent substrate is composed of gallium nitride or silicon carbide.

20

18. The method according to claim 12, wherein said nitride based semiconductor layer contains at least one of gallium, aluminum, indium, boron, and thallium.

25

A.1
Cont

19. The method according to claim 12, wherein
the step of forming said first and second ohmic
electrodes comprises the step of arranging at least one of
the first and second ohmic electrodes so as to be asymmetric
5 with respect to a line passing through a center point of said
cavity length and vertical to the cavity length direction.

20. The method according to claim 12, wherein
said nitride based semiconductor layer has a striped
10 current injection region, and

said first and second ohmic electrodes respectively
have regions opposite to said striped current injection
region.

21. The method according to claim 13, wherein
said dielectric films respectively formed at the front
facet and the rear facet of said cavity have different
reflectances.